

WHAT IS CLAIMED IS:

1. A method for aligning a key in a semiconductor device, comprising the steps of:

preparing a semiconductor substrate that is divided into a scribe lane region and a main chip region;

depositing an oxide film on the semiconductor substrate for forming an align key;

forming an area key and a first align key at the same time on the scribe lane region by selectively etching the oxide film by using a N-well ion implantation mask;

performing an N-well ion implantation on the region which the oxide film is removed from; and

forming a second align key in the area key, whose formation is already finished by removing the oxide film, by a silicon etching method using a P-well mask, upon a N-well process using a P-well ion implantation mask.

2. The method of claim 1, wherein the oxide film and the silicon are dual etched in the silicon etching step.

3. The method of claim 1, wherein the oxide film is deposited at a thickness of 800 to 1500Å upon the N-well formation process.

4. The method of claim 1, wherein the method further comprises the step of

removing the photoresist used as the N-well ion implantation mask before the N-well ion implantation step.

5. The method of claim 1, wherein the method further comprises the step of removing the photoresist used as the P-well ion implantation mask before the P-well ion implantation step.

6. The method of claim 1, wherein, upon performing an N-well selective etching process on the main chip region, the area key and the first align key using a step portion of the oxide film are formed at the same time by selectively etching the scribe lane region.

7. The method of claim 1, wherein the area key formed by N-well photo and selective etching processes has a size of 40 μ m to 90 μ m in a forward directional shape, and the oxide film on a second align key forming region of the scribe lane is removed.

8. The method of claim 1, wherein the semiconductor substrate is aligned using the first align key formed on the scribe lane upon the P-well photo process, and the second align key is formed in the area key where the oxide film is removed using the N-well photo process upon selective etching of the oxide film using a P-well ion implantation photo process.

9. The method of claim 1, wherein, upon the P-well photo process, the second

10

align key to be formed on the scribe lane region is accurately aligned in the area key which the oxide film is removed by the alignment of the first align key.

10. The method of claim 9, wherein a silicon etching using the second align key as a pattern is performed using the oxide film removal process for the P-well ion implantation, simultaneously with the oxide film etching.

11. The method of claim 9, wherein the silicon of the second align key patterning portion is etched at a thickness of 800 to 1500Å by performing a silicon etching for the formation of the second align key at an etching selection ratio of 0.8 to 1.2.

12. The method of claim 9, wherein the second align key formed on the scribe lane region upon the P-well process has the same shape as the first align key, thereby enabling a mask alignment using the second align key upon the subsequent photo process such as LOCOS, etc.